

CLAIMS

1. An optical disk device comprising:

an optical system for condensing and emitting a light beam to an optical disk having plural data planes at a data-recordable intensity;

5 a focus error signal detector for detecting a focus error signal corresponding to a relative displacement between a focus of the light beam and the data planes based on a reflected light from the data planes;

a focus controller for matching the focus of the light beam with the data planes depending on the focus error signal;

10 a light intensity controller for controlling an intensity of the light beam; and

a focus monitor for monitoring the focus error signal, wherein the light intensity controller controls the intensity of the light beam depending on an output of the focus monitor.

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2. The optical disk device of claim 1,

wherein the focus monitor monitors an increase of an amplitude of the focus error signal, and

wherein the light intensity controller reduces, depending on the 20 output of the focus monitor, the intensity of the light beam to a level at which data can not be recorded in the optical disk.

3. An optical disk device comprising:

an optical system for condensing and emitting a light beam to an 25 optical disk having plural data planes at a data-recordable intensity;

a focus error signal detector for detecting a focus error signal corresponding to a relative displacement between a focus of the light beam

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and the data planes based on a reflected light from the data planes;

a focus controller for matching a focus of the light beam with the data planes depending on the focus error signal;

a light intensity controller for controlling an intensity of the light beam; and

a reflected light quantity monitor for monitoring a quantity of the reflected light from the data planes,

wherein the light intensity controller controls the intensity of the light beam depending on an output of the reflected light quantity monitor.

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4. The optical disk device of claim 3,

wherein the reflected light quantity monitor monitors a drop of the quantity of the reflected light, and

wherein the light intensity controller reduces, depending on the output of the reflected light quantity monitor, the intensity of the light beam to a level at which data can not be recorded in the optical disk.

5. An optical disk device comprising:

an optical system for condensing and emitting a light beam to an optical disk having plural data planes at a data-recordable intensity;

a focus error signal detector for detecting a focus error signal corresponding to a relative displacement between a focus of the light beam and the data planes based on a reflected light from the data planes;

a focus controller for matching the focus of the light beam with the data planes depending on the focus error signal;

a light intensity controller for controlling an intensity of the light beam; and

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a layer move detector for detecting that the focus of the light beam moves from one of the data planes to other of the data planes, wherein the light intensity controller reduces, depending on an output of the layer move detector, the intensity of the light beam to a level at which
5 data can not be recorded in the optical disk.

6. An optical disk device comprising:

an optical system for condensing and emitting a light beam to an optical disk having plural data planes at a data-recordable intensity;
10 a focus error signal detector for detecting a focus error signal corresponding to a relative displacement between a focus of the light beam and the data planes based on a reflected light from the data planes;
a focus controller for matching the focus of the light beam with the data planes depending on the focus error signal;
15 a light intensity controller for controlling an intensity of the light beam; and
a layer move controller for moving the focus of the light beam from one of the data planes to other of the data planes;
wherein the light intensity controller reduces the intensity of the light
20 beam to a level at which data can not be recorded in the optical disk, and then, the layer move controller moves the focus of the light beam.

7. A method for controlling an optical disk which includes:

an optical system for condensing and emitting a light beam to an
25 optical disk having plural data planes at a data-recordable intensity;
a focus error signal detector for detecting a focus error signal corresponding to a relative displacement between a focus of the light beam

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and the data planes;

a focus controller for matching the focus of the light beam with the data planes; and

a light intensity controller for controlling an intensity of the light beam,

said method comprising the steps of:

detecting the focus error signal based on a reflected light from the data planes; and

controlling the intensity of the light beam depending on the focus error signal.

8. The method of claim 7, wherein said step of controlling the intensity of the light beam comprises the sub step of reducing the intensity of the light beam to a level at which data can not be recorded in the optical disk when an amplitude of the focus error signal increases.

9. A method for controlling an optical disk which includes:

an optical system for condensing and emitting a light beam to an optical disk having plural data planes at a data-recordable intensity;

a reflected light quantity monitor for monitoring a quantity of a reflected light of the light beam from the data planes;

a focus controller for matching the focus of the light beam with the data planes; and

a light intensity controller for controlling an intensity of the light beam,

said method comprising the steps of:

monitoring the quantity of the reflected light; and

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controlling the intensity of the light beam depending on the quantity of the reflected light.

10. The method of claim 9,

5 wherein said step of monitoring the quantity of the reflected light comprises the sub step of monitoring a drop of the quantity of the reflected light, and

wherein said step of controlling the intensity of the light beam comprises the sub step of reducing the intensity of the light beam to a
10 level at which data can not be recorded in the optical disk when the quantity of the reflected light decreases.

11. A method for controlling an optical disk which includes:

an optical system for condensing and emitting a light beam to an
15 optical disk having plural data planes at a data-recordable intensity;

a layer move detector for detecting that a focus of the light beam moves from one of the data planes to other of the data planes;

a focus controller for matching the focus of the light beam with the data planes; and

20 a light intensity controller for controlling an intensity of the light beam,

said method comprising the steps of:

detecting that the focus of the light beam moves from one of the data planes to other of the data planes; and

25 reducing an intensity of the light beam to a level at which data can not be recorded in the optical disk when it is detected that the focus of the light beam moves at said step of detecting that the focus of the light beam

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12. A method for controlling an optical disk which includes:
an optical system for condensing and emitting a light beam to an
5 optical disk having plural data planes at a data-recordable intensity;
a focus controller for matching a focus of the light beam with the
data planes;
a layer move controller for moving the focus of the light beam from
one of the data planes to other of the data planes; and
10 a light intensity controller for controlling an intensity of the light
beam,
said method comprising the steps of:
reducing the intensity of the light beam to a level at which data can
not be recorded in the optical disk; and
15 then, moving the focus of the light beam from one of the data planes
to other of the data planes.

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